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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, TUAN M

ART UNIT PAPER NUMBER

2828

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/080,492

Applicant(s)

WESSTROM, JAN-OLOF JOEL

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is a “single step” method.

For example claim 1 recites “a method of compensating for losses in a tunable optical filter that includes a waveguide formed from tunable material and an amplifying material disposed in a parallel relationship with the tunable material, the tuning and amplifying materials having different compositions, the method comprising: injecting charge carriers into the tunable material and amplifying material simultaneously so that the amplifying material provides gain to light propagating along the tunable material waveguide and so that the refractive index of the tunable material is charged to a desired value”. The claim is drawn into a “single means” claim

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or a “single step” method claim. The claim fails to comply with MPEP § 2164.08(a) single means claim.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claim 1, the claim recites “injecting charge carriers into the tunable material and amplifying material simultaneously so that the amplifying material provides gain to light propagating along the tunable material waveguide and so that the refractive index of the tunable material is changed to a desired value”. It is not clear as what the injecting charge carriers is injected into the tunable material and amplifying material, whether they are electric current or optic signal which render the claim confusing, vague and indefinite.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sahlen ('866).

With respect to claims 1 and 9, Sahlen discloses a tunable optical filter device comprising tunable waveguides (21, 22), a tuning waveguide material (6), and an active material (5') having a composition different from the composition of the tuning material, note col. 6 lines 9-39, see figs. 4-5.

With respect to claims 2-4, Sahlen discloses disposing repeated lengths of amplifying material along a direction parallel to the waveguide, see fig 1.

With respect to claims 5 and 13, Sahlen shown in figure 4 a grating structure formed of sections of grating material regularly spaced along waveguide.

With respect to claims 6-7 and 14-15, Sahlen discloses the InGaAsP/InP for long wavelength about 1.55 μm , note col. 1.

With respect to claims 8 and 16, Sahlen discloses amplifying material is InGaAsP, note col. 3.

With respect to claims 10-12, Sahlen discloses tuning material are separated from the amplifying material and amplifying material parallel to the tunable waveguide, see figs. 1-2.

With respect to claims 17-18, Sahlen shown in figure 5 first and second wave guides (21, 22), grating (7'), see fig. 4.

With respect to claims 19-20, Sahlen discloses the bandgap energy relationship between tuning material, amplifying material and tunable waveguide, note col. 1 line 43 to col. 6 line 67.

Response to Arguments

5. Applicant's arguments filed on May-9-2003 have been fully considered but they are not persuasive.

On pages 5-6, Applicant argues that rejection under 35 USC § 112, second paragraph is not clear due to typo errors. Those errors have been corrected and the rejection under 35 USC § 112 has been rewrite.

On page 8, Applicant argues that Sahlen fails to teaches all the elements of the claims 1 and 9. It is disagreed because Sahlen discloses all elements of the claims 1 and 9 such as a tunable optical filter comprising the tunable waveguide formed from a tuning material, the amplifying material, the active material, note col. 6, see fig. 4. Also, the patents cited can read on claims 1 and 9 of the application.

According to the above reasons, Applicant's argument is not persuasive. Claims 1-20 are not patentable over Sahlen.

Citation Of The Pertinent References

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

The patent to Forrest et al (US patent 6,330,378) discloses photonic integrated detector having a plurality of asymmetric waveguides.

The patent to Lealman et al (US patent 6,198,863) discloses optical filters.

The patent to Park et al (US patent 6,610,302) discloses grating assisted vertical codirectional coupler having pair grating structure.

The patent to O'Brien et al (US patent 5,926,493) discloses optical semiconductor device with diffraction grating structure.

The patent to Lealman et al (US patent 5,699,378) discloses optical comb filter used with waveguide, laser and manufacturing method of same.

The patent to Uchida et al (US patent 5,613,020) discloses optical device having a periodical current restraint layer and optical communication systems using the optical device.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

A handwritten signature in black ink, appearing to read "Paul Ip", with a stylized flourish at the end.

Paul Ip
SPE
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TMN
August 2, 2003